

Notice of Allowability

Application No.

10/784,158

Examiner

Dana Ross

Applicant(s)

HAGIHARA ET AL.

Art Unit

3722

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to RCE Filed 7/24/06.
2. ☒ The allowed claim(s) is/are 1,3,12 and 13.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


MONICA CARTER
SUPERVISORY PATENT EXAMINER

Allowable Subject Matter

1. Claims 1, 3, 12 and 13 are allowed.

The following is an examiner's statement of reasons for allowance: The prior art neither anticipates nor renders obvious the inventions of Independent claims 1, 12 or 13, specifically:

- an apparatus for automatically changing a tool tip member for a robot, said robot operating in the condition that said tool tip member is threadedly mounted on a tool body mounted on a robot arm as claimed in independent claim 1, specifically wherein the combination of limitations includes the controller controls the operation of said robot arm of said robot to move said tool body around said rotation axis while keeping said tool body in contact with said tool tip member held by said tip member holding means, thereby to rotate said rotating member about said rotation axis while bringing about the relative rotation between said tool body and said tool tip member so as to demount or mount said tool tip member from or to said tool body (claim 1);
- an apparatus to automatically change a tool tip member used by a robot, the tool tip member being threadedly mounted on a tool body mounted on a robot arm of the robot as claimed in claim 12, specifically wherein the combination of limitations includes a controller to control the operation of the robot arm to move the tool body around the rotation axis while keeping the tool body in contact with the tool tip member by the tip member holder (claim 12); or
- an apparatus to automatically change a tool tip member used by a robot, the tool tip member being threadedly mounted on a tool body mounted on a robot arm of the robot as is currently claimed in independent claim 13, specifically wherein the

combination of limitations includes the rotating member is rotated so that the tip member holder rotates around the rotation axis of the rotating member while threading the tool tip member onto or off of the tool body on the robot arm.

Regarding claims 1, 2 and 12, the closest prior art is US Pat.No. 4,733,050 (Grafius) as is discussed in detail in the previous office actions.

Applicant's arguments regarding independent claims 1 and 12 are persuasive.

Grafius does not disclose the controller controls the operation of said robot arm of said robot to move said tool body around said rotation axis while keeping said tool body in contact with said tool tip member held by said tip member holding means, thereby to rotate said rotating member about said rotation axis *while* bringing about the relative rotation between said tool body and said tool tip member so as to demount or mount said tool tip member from or to said tool body (claim 1) or a controller to control the operation of the robot arm to move the tool body around the rotation axis *while* keeping the tool body in contact with the tool tip member by the tip member holder (claim 12).

Therefore Grafius does not anticipate the claimed inventions of Independent claims 1 and 12.

Furthermore, there is no prior art, either alone or in combination with Grafius that would render obvious the claimed inventions, and no motivation found to modify the prior art to obtain the claimed inventions.

Regarding claim 13, it is well known in the art to have a rotating member with tip members provided on the rotating member at a position offset from a rotation axis of the rotating member as is show in US Pat. No. 6,716,146 (Kato) which teaches a plurality of rotating

Art Unit: 3722

members, each with tip members provided at a position offset from a rotation axis of the rotating member.

Kato teaches a rotational indexing of the tool and tool holders around the axis of rotation, but provides for the indexing to a position, not the continuous rotation while threading.

However, Kato does not disclose the automated tool change such that the rotating member is rotated so that the tip member holder rotates around the rotation axis of the rotating member while threading the tool tip member onto or off of the tool body on the robot arm.

Examiner notes that automated tool change manipulation systems are well known in the art as is taught by Lemelson in both US 5,017,084 and US 4,773,815.

However, Lemelson does not disclose the automated tool change such that the rotating member is rotated so that the tip member holder rotates around the rotation axis of the rotating member while threading the tool tip member onto or off of the tool body on the robot arm.

Therefore neither Kato or Lemelson anticipate the invention of independent claim 13.

Furthermore, there is no prior art, either alone or in combination with Kato or Lemelson that would render obvious the invention of independent claim 13, and no motivation found to modify the prior art to obtain the claimed invention.


Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dana Ross whose telephone number is 571-272-4480. The examiner can normally be reached on Mon-Thurs.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Monica Carter can be reached on 571-272-4475. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


dmr


MONICA CARTER
SUPERVISORY PATENT EXAMINER